

REMARKS

Claims 1, 25, 26, 29 and 38 have been amended. Claims 1-111 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 112, Second Paragraph, Rejection:

The Examiner rejected claims 1-24 under 35 U.S.C. § 112, second paragraph, as indefinite in the recitation of “an identification of and communication address for a corresponding one of said peers.” Applicants respectfully traverse this rejection, as it is clear from the language of the claim that “identification of” refers to “a corresponding one of said peers.” However, to expedite prosecution, Applicants have amended claim 1 to recite *wherein each peer advertisement comprises an identification of a corresponding one of said peers and communication address for the corresponding one of said peers*. Thus, Applicants respectfully request removal of the § 112 rejection of claims 1-24.

Section 102(e) Rejection:

The Examiner rejected claims 25, 26, 28-38, 79, 81, 83-85 and 87 under 35 U.S.C. § 102(e) as being anticipated by Beck et al. (U.S. Patent 6,604,140) (hereinafter “Beck”). Applicants respectfully traverse this rejection for at least the reasons presented below.

In regard to claim 25, contrary to the Examiner’s assertion, Beck does not anticipate a peer node, comprising...program instructions executable by a processor to: discover advertisements for resources in a peer-to-peer network, wherein each resource advertisement comprises an identification of a corresponding resource and an indication of how to access the corresponding resource; and access said resources corresponding to said advertisements as indicated in said advertisements; wherein said resources include other peer nodes in the peer-to-peer network, and wherein

said advertisements include peer advertisements corresponding to the other peer nodes.

Beck discloses a method, apparatus and computer product that enables one or more computing devices to discover and use services over a network. Beck's service discovery is based on periodic multicasting of exported service descriptions to nearby devices over the network. In Beck's system, middleware enables a device to discover, advertise and use services. Beck's system enables software clients on the same device to share a service implementation (in the case of a local service) or to share an implementation proxy (in the case of a remote service). (Beck, Abstract). Beck specifically defines "service" and "service discovery" at col. 1, lines 21-22 (emphasis added):

Functionality is provided through the use of a service, which is an independent piece of software that performs a specific function on behalf of a client. By exchanging services, functionality is shared between devices. Service discovery refers to the process used by a device to find and load services on other devices.

Beck also defines "Service" and "Service Discovery" at col. 2, lines 21-22 and 29-30. In the rejection of claim 25, the Examiner cites Beck, col. 4, lines 45-51 and asserts "advertiser in each device create a service descriptor, which includes service name, and the location of the code that implement the service." However, it is clear from the citation and from the above citations provided by Applicants that Beck's service descriptors specifically and only advertise services as defined by Beck. The paragraph that contains the Examiner's citation begins as "FIG. 2 shows an example of a flowchart for advertisement of services in accordance with the present invention." Beck does not teach or suggest that services include peer nodes, and Beck's specific definition of services **precludes services from including other peer nodes**. Beck's specific definition of "service" does not include peers or peer nodes. Furthermore, Beck states "by exchanging services, functionality is shared between devices." Peer nodes by their nature clearly cannot be exchanged by devices.

In addition, Beck does not teach or suggest peer advertisements corresponding to other peer nodes. Furthermore, Beck does not teach or suggest accessing another peer node corresponding to a peer advertisement as indicated in the peer advertisement.

In the rejection of claim 26, which before amendment included the limitation *wherein said resources include one or more of peers*, the Examiner cites Beck, col. 4, lines 31-39. The citation again only refers to services and the advertisement of services, and does not teach or suggest the notion of advertisements corresponding to peer nodes or the notion of advertising peers or peer nodes.

In the rejection of claim 29, which before amendment included the limitation *wherein the resources include other peers*, and which currently recites *wherein the program instructions are further executable to discover a peer advertisement corresponding to another peer node*, the Examiner cites Beck, col. 7, lines 45-48, and asserts “IP address and the TCP port.” This citation is directed at “the descriptor for a remote service.” Beck simply teaches in this citation that the service descriptor (which the Examiner has equated with Applicants’ advertisement) for a remote service contains information about the location of the remote device on which the remote service implementation resides. “The implementation proxy resides on the device using the service (Device-3, 701), while the remote service implementation resides on a remote device (Device-4. 702).” (Col. 7, lines 36-39). Beck does not teach or suggest, in this citation or elsewhere, the notion that *the resources include other peers* (i.e., that “services” include peers; again, Beck’s definition of “service” does not include peers or peer nodes), nor does Beck teach or suggest in this citation or elsewhere the notion of a *peer advertisement corresponding to another peer node*.

In the rejection of claim 38, which before amendment included the limitation *wherein the resources include peers*, the Examiner cites Beck, col. 8, lines 31-37. In this citation, Beck is describing “access to a service by a software client.” Beck clearly does not teach or suggest in this citation the notion of the resources that are advertised

including peers. Again, Beck specifically defines a service as an independent piece of software that performs a specific function on behalf of a client.

Applicants remind the Examiner that anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. M.P.E.P 2131; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Nowhere does the Beck reference disclose “each and every element of the claimed invention” (claim 25 of the instant application) as arranged in the claim. For example, Beck does not disclose *wherein said resources include other peer nodes in the peer-to-peer network, and wherein said advertisements include peer advertisements corresponding to the other peer nodes*. Furthermore, even if Beck did disclose one or more of the above elements, nowhere does Krapf disclose the above elements arranged as in claim 25. For at least the reasons given above, Krapf clearly does not anticipate Applicants’ claim 25.

Thus, for at least the reasons presented above, the rejection of claim 25 is not supported by the cited art and removal thereof is respectfully requested.

In regard to claim 79, contrary to the Examiner’s assertion, Beck does not anticipate a peer node broadcasting a discovery query message specifying a type of resource on the network.

The Examiner cites Beck, col. 4 lines 40-54 and col. 8, lines 16-25, “send a request for the service.” Contrary to the Examiner’s assertion, neither of these citations teach or suggest a client broadcasting a discovery query message specifying a type of resource on the network.

Col. 8, lines 16-25 states “Service Lookup refers to the process used by a client to request a service.” In Figure 5, and in the accompanying description beginning at col. 6,

line 3, Beck describes a “method of service lookup.” At col. 6, lines 4-6, Beck states (emphasis added): “In step 501, a client requests usage of a service by querying the service registry.” Clearly, Beck’s “Service Lookup” does not involve broadcasting a discovery query message on the network. In contrast, Beck’s “Service Lookup” simply involves querying a service registry. Querying a service registry is clearly not the same thing as broadcasting a discovery query message on a network.

Col. 4 lines 40-54 states:

In step 201, the advertiser retrieves a service that the device wishes to advertise. In the present embodiment, this operation is implemented by querying the service registry

As noted above, querying a service registry is clearly not the same thing as broadcasting a discovery query message on a network. The citation goes on to state:

In step 203, the advertiser exports the service by multicasting the previously created service descriptor on a predefined multicast address over the ad-hoc network, 103.

Here, Beck discloses multicasting a service descriptor, not multicasting a discovery query message. Beck does not disclose broadcasting or multicasting a discovery query message.

In further regard to claim 79, contrary to the Examiner’s assertion, Beck does not anticipate the peer node receiving one or more advertisements for the specified type of resource in response to said discovery query message.

Again, Beck does not disclose broadcasting a discovery query message. In addition, referring again to FIG. 5 of Beck, and the accompanying description beginning at col. 6, line 3, Beck teaches, at col. 6, lines (emphasis added):

In step 501, a client requests usage of a service by querying the service registry. In the present embodiment, the client furnishes a description of the requested service via attributes of the service interface and, optionally, the service implementation. The registry matches this request against descriptors of known services. If a service descriptor matches the description of the requested service, the registry follows in step 502 where

it checks if the service is already loaded on the device. If the service is not loaded on the device, the service registry follows steps 503, 504 and 505 in order to respectively download the service interface, adapter and implementation [to the device]... The process of binding a service terminates in step 507 where a reference to the service adapter is returned to the client.

In other words, Beck's service registry does not send advertisements to a requesting client in response to a query of the registry; instead, Beck discloses that, if the service is not already loaded on the device, the service registry downloads the service interface, adapter and implementation to the device. The service registry then returns a reference to the service adapter to the client. Beck defines "Service Adapter" at col. 2, lines 24-25:

Service Adapter: an entity that interposes between clients and a service implementation.

A reference to a service adapter is clearly not an advertisement for a service. Furthermore, the Examiner has equated Beck's "Service Descriptor" with Applicants' advertisement, and Beck's "Service Descriptor", which is defined as "an entity that describes a service," is clearly and distinctly different than a reference to a service adapter, and Beck clearly and consistently distinguishes between the two entities. Beck's service registry does not return a service descriptor to the client.

In further regard to claim 79, contrary to the Examiner's assertion, Beck does not anticipate wherein each advertisement is a programming language independent metadata document formatted in accordance with a peer-to-peer protocol.

The Examiner cites Beck, col. 7, line 57. This citation refers to "the protocol for communication between the implementation proxy and remote implementation," and mentions that "Java Remote Method Invocation (RMI) is used." The citation is not referring to advertisements, nor is the citation directed at Beck's "Service Descriptor", which the Examiner has equated with Applicants' advertisements. The citation teaches or suggests nothing about advertisements, nor does the citation teach anything like an

advertisement or a “service descriptor” being a programming language independent metadata document. Moreover, Java Remote Method Invocation (RMI) is not a “programming language independent metadata document formatted in accordance with a peer-to-peer protocol,” nor does Beck’s mentioning Java RMI teach or suggest this limitation.

Applicants remind the Examiner that anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. M.P.E.P 2131; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Nowhere does the Beck reference disclose “each and every element of the claimed invention” (claim 79 of the instant application) as arranged in the claim. For example, Beck does not disclose *a peer node broadcasting a discovery query message specifying a type of resource on the network*, nor does Beck disclose *the peer node receiving one or more advertisements for the specified type of resource in response to said discovery query message*. Furthermore, even if Beck did disclose one or more of the above elements, nowhere does Krapf disclose the above elements arranged as in claim 79. For at least the reasons given above, Krapf clearly does not anticipate Applicants’ claim 79.

Thus, for at least the reasons presented above, the rejection of claim 79 is not supported by the cited art and removal thereof is respectfully requested.

In regard to claim 81, Beck does not anticipate wherein the discovery query message specifies peer nodes as the resource type. The Examiner cites Beck, col. 4, lines 40-51. Applicants traverse this rejection for at least the reasons given above in regards to claim 25. The paragraph that contains the Examiner’s citation begins as “FIG. 2 shows an example of a flowchart for advertisement of services in accordance with the present invention.” Again, Beck’s service descriptors specifically and only advertise

services as defined by Beck. Beck does not teach or suggest that services include peer nodes.

Thus, for at least the reasons presented above, the rejection of claim 81 is not supported by the cited art and removal thereof is respectfully requested.

Section 103(a) Rejections:

The Examiner rejected claims 1-5, 9-21, 39-46, 48-52, 55-61, 63, 65-76, 88-95, 98-100 and 102-111 under 35 U.S.C. § 103(a) as being unpatentable over Beck in view of Lynch (U.S. Patent 6,487,600) (hereinafter “Lynch”). Applicants respectfully traverse this rejection for at least the reasons presented below.

In regard to claim 1, contrary to the Examiner’s assertion, the cited art does not teach a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of a corresponding one of said peers and communication address for the corresponding one of said peers.

The Examiner cites Beck, col. 7, lines 46-47, and states “for example the IP address and the TCP port.” Again, Beck’s service descriptors specifically and only advertise services as defined by Beck. Beck does not teach or suggest that services include peer nodes. The col. 7, lines 46-47 citation is directed at “the descriptor for a *remote service*.” Beck simply teaches in this citation that the service descriptor (which the Examiner has equated with Applicants’ advertisement) for a remote service contains information about the location of the remote device on which the remote service implementation resides. “The implementation proxy resides on the device using the service (Device-3, 701), while the remote service implementation resides on a remote device (Device-4, 702).” (Col. 7, lines 36-39). The cited art does not teach or suggest, in this citation from Beck or elsewhere, the notion of a peer advertisement for each of said peers, wherein each peer advertisement comprises an identification of a corresponding one of said peers and communication address for the corresponding one of said peers. In

addition, Applicants' other arguments regarding the Examiner's assertion that the cited art teaches the notion of peer advertisements for peers presented above in regard to claim 25 apply equally to claim 1.

The Examiner relies upon Lynch to assert the cited art teaches "an identification of the peer node," and cites Lynch, col. 23 lines 54-56, and FIG. 13, "peer ID and the corresponding IP address." However, Lynch, like Beck, does not teach or suggest the notion of peer advertisements for each of said peers.

Thus, for at least the reasons presented above, the rejection of claim 1 is not supported by the cited art and removal thereof is respectfully requested. Similar remarks as those above regarding claim 1 also apply to claims 50, 57, 94, 100, 110 and 111.

In regard to claim 39, the cited art does not teach a peer node, comprising program instructions executable by the processor to generate a peer advertisement for the peer node, for at least the reasons given above in regard to claim 1 and claim 25.

In further regard to claim 39, the cited art does not teach a peer advertisement for the peer node comprises: a pipe endpoint advertisement indicating where to send messages to the peer node; and one or more service advertisements.

Not only does the cited art not teach the notion of a peer advertisement for a peer node, the cited art does not teach or suggest the notion of an advertisement comprising other advertisements, nor does the cited art teach or suggest the notion of an advertisement comprising a pipe endpoint advertisement for a peer node and one or more service advertisements. The citations provided by the Examiner have been previously addressed in regard to other independent claims. Applicants note that the citations provided by the Examiner do not teach the above limitations, alone or in combination.

Thus, for at least the reasons presented above, the rejection of claim 39 is not supported by the cited art and removal thereof is respectfully requested.

The Examiner rejected claims 8, 54 and 64 as being unpatentable over Beck and Lynch and further in view of Borella et al. (U.S. Patent 6,269,099), claims 22-24 and 77-78 under 35 U.S.C. § 103(a) as being unpatentable over Beck and Lynch and further in view of Norris, et al. (U.S. Patent 6,754,678), claim 80 as being unpatentable over Beck in view of what was well known in the art, claim 96 as being unpatentable over Beck and Lynch and further in view of what was well known in the art, claim 47 as being unpatentable over Beck and Lynch and further in view of Periasamy et al. (U.S. Patent 5,537,526), and claim 86 as being unpatentable over Beck in view of Periasamy. Since the rejections have been shown to be unsupported for the independent claims, a further discussion of these rejections is not necessary at this time.

Regarding both the § 102 and § 103 rejections above, Applicants also assert that the rejection of numerous ones of the dependent claims is further unsupported by the cited art. However, since the rejection has been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-06900/RCK.

Respectfully submitted,

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